U.S. Department of Transportation Wireless E9-1-1 Steering Council

WIRELESS E9-1-1
PRIORITY ACTION PLAN

U.S. Department of Transportation www.its.dot.gov

WIRELESS LOCATION SAVES LIVES

ENHANCED 9-1-1

DOT Cares

"When someone makes a call to 9-1-1 they expect to get help right away. We cannot, and will not, accept a system where these callers cannot be located . . ."

Secretary of Transportation Norman Y. Mineta
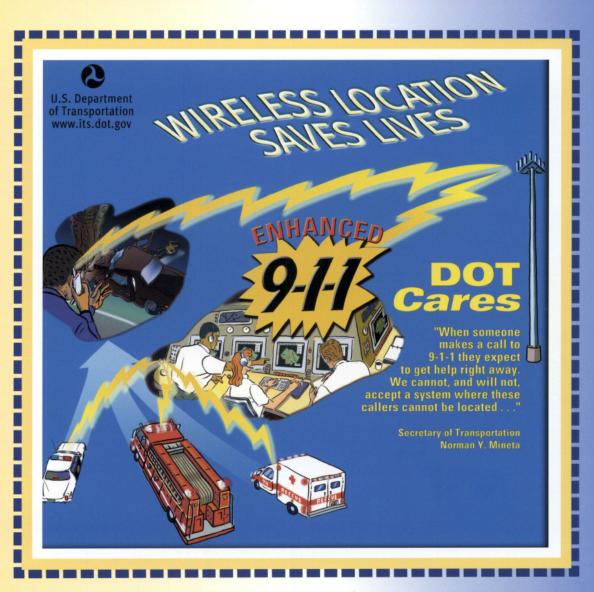
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U.S. Department of Transportation Wireless E9-1-1 Steering Council

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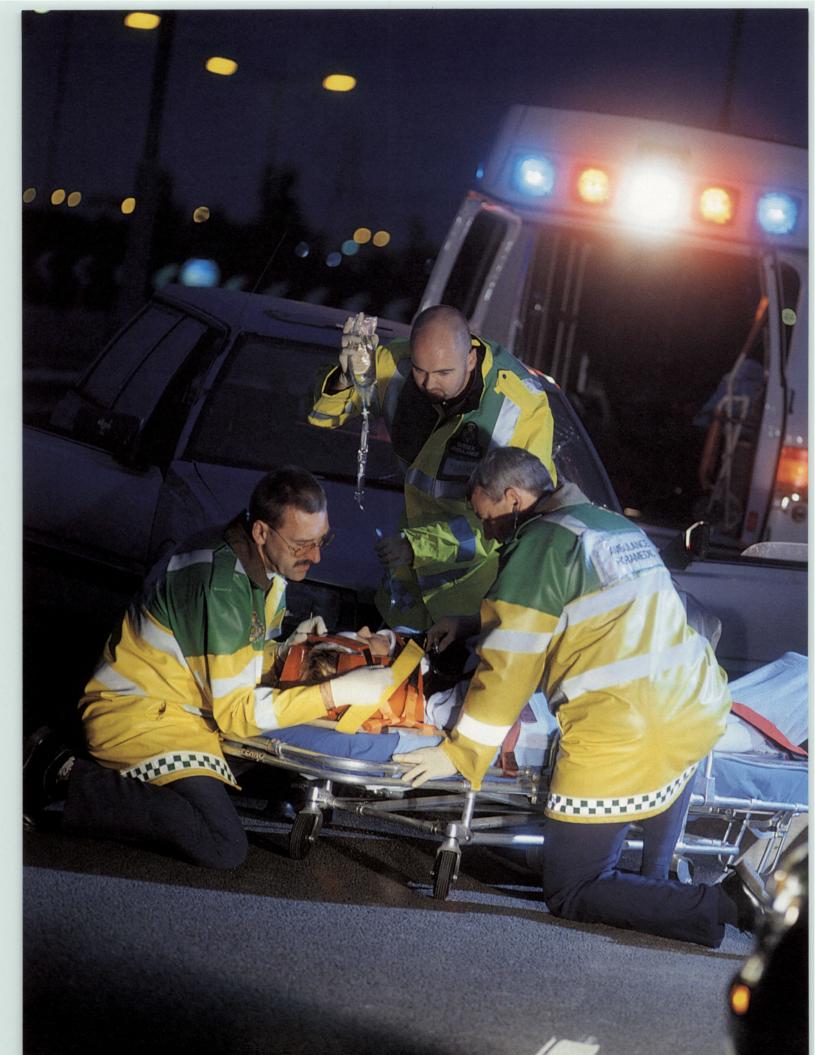*National Conference of
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FOREWORD

"... Now is the time for leaders to lead. And no group has a better chance of making wireless enhanced 9-1-1 a reality than the group gathered here today. Everyone in this room was invited because you are the ones who can create these systems and make them work. Look around this room. You are the leaders.

Today we must agree on a course of action for the future. We must agree to shoulder our part of the responsibility for achieving success. Our ultimate goal is the safety of all Americans, and our friends living and working here with us from all over the world. Nothing has brought that home more than the events of September 11th.

If we do not leave this room today with agreed-upon roles, responsibilities, and actions, then we are doing a terrible disservice to the American people. Not only are we letting them down, but we are also wasting billions and billions of taxpayer dollars.

How much have we spent on our emergency system in the United States? How much have we spent educating the public to call 9-1-1 in an emergency? And how much have each of you spent to develop the next generation in telecommunication technology and to create the immense wireless infrastructure? That money will be wasted if citizens calling-in emergencies from their cell phones cannot be found.

More than 100,000 people use their cell phones to call 9-1-1 every single day. One of those callers was Karla Gutierrez. Ms. Gutierrez was on her way home last year when she drove her BMW into a canal off of a Florida turnpike near Miami. She called 9-1-1 with her cell phone but was unable to tell officers exactly where she was located. As her car sank into the canal, more than 20 police officers were searching for

"When someone calls 9-1-1 they expect to get help right away. We cannot, and will not, accept a system where these callers cannot be located as quickly as possible."

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her. They pulled her lifeless body from the canal almost 45 minutes after she first placed the call.

There was also the well-publicized case in April 1999 of New York Jets defensive back Victor Green's wife and 10-month-old daughter who were abducted by carjackers. Esther Green was able to call 9-1-1 secretly from her cell phone. She dropped discreet hints describing her location. It took police 20 minutes to decipher her hints, catch up with the suspects, and free Green and her daughter.

When someone calls 9-1-1 they expect to get help right away. We cannot, and will not, accept a system where these callers cannot be located as quickly as possible. We have the technology to solve this problem. All we need is the resolve and the commitment to make it happen.
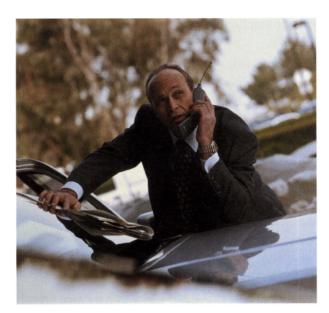
The fact that you are here tells me that you care about this issue and want to be a part of the solution.

I look forward to seeing the action plan you create today. That plan for the implementation of the wireless enhanced 9-1-1 system will be the one we follow into the future. It will be a future where wireless communication will alert us to the location of a car crash when the occupants are unconscious or otherwise unable to call. It will be a future where important medical information is emitted from wireless devices when victims cannot tell us themselves. It will be a future where we can send evacuation alerts to people with wireless devices when we know of a dangerous situation, such as a toxic spill or a bridge that is out.

This future can never be, however, if we do not take the first step today. Again, thank you very much for coming. I look forward to our continued partnership throughout this project. **"**

The Honorable Norman Y. Mineta,
Secretary of Transportation
at the Wireess E9-1-1 Summit Meeting
Washington, DC
April 8, 2002

"We have the technology to solve this problem. All we need is the resolve and the commitment to make it happen."

CONTENTS

The Appendix contains a discussion of the tasks necessary for accomplishment of each Action Item. For each task, the stakeholders that need to be involved, and timefames for accomplishment are specified.

I.

INTRODUCTION

This introduction provides an overview of emergency call location issues and background on the Department of Transportation's Wireless E9-1-1 Initiative.

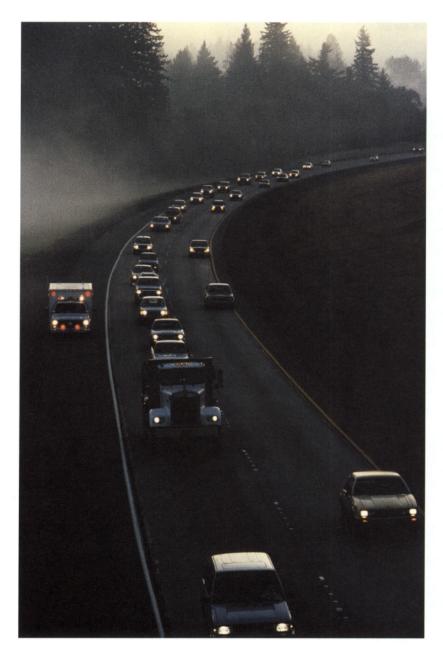## Emergency Call Location is a Major Public Safety Concern

Prior to the widespread use of wireless telephones, the nation's 5,300 primary Public Safety Answering Points (PSAPs) were able to automatically locate nearly all (98 percent) of 9-1-1 callers using Enhanced 9-1-1 (E9-1-1), an emergency telephone service that provides immediate caller identification and location. E9-1-1 automatically routes calls to the appropriate PSAP and notifies the dispatcher of the caller's location.

In some jurisdictions, as many as half of the calls to 9-1-1 currently are placed from a wireless telephone. A survey funded by the U.S. Department of Transportation (DOT) revealed that only 643 of the nation's 3,136 local jurisdictions had wireless call location capability (wireless E9-1-1) in May 2003.

Well-publicized tragedies where rescuers have been unable to locate victims calling for help from wireless telephones have raised public awareness of the issue, although many users still are unaware of the safety limitations of their cell phone service.

Without location capability, 9-1-1 calls from cell phones often compromise public health and safety and result in the inefficient use of emergency resources (law enforcement, fire and rescue, emergency medical services). Rescue crews must search for the incident scene. A common scenario is a crash on a divided-lane freeway, where callers are unable to tell the call-takers the exact location of the incident, or even whether it is in the northbound or southbound (eastbound or westbound) lane. Dispatchers have no choice but to dispatch multiple units, heading in both directions, to search for the incident scene.

Another difficulty is that without location technology,

closely with stakeholders in the wireless industry and the public safety community in developing these rules.

Phase I requires carriers, upon appropriate request by a local PSAP, to report the telephone number of a wireless 9-1-1 caller and the location of the antenna that received the call. This is important in the event the wireless phone call is dropped, and may even allow PSAP employees to work with the wireless company to identify the wireless subscriber. Phase I also delivers the cell site/sector information, which may be more beneficial in actual use than the callback number.

Phase II requires wireless carriers to provide far more precise location information—within 50 to 100 meters in most cases—as well as the caller's wireless phone number.

The deployment of wireless E9-1-1 requires technology and equipment upgrades at local PSAPs, as well as coordination among public safety agencies, wireless carriers, technology vendors, equipment manufacturers, and local wireline carriers. Carriers' obligations are triggered by a service request by the PSAP.

Based on the rules above, a PSAP must be ready for Phase II before requesting that level of service from a wireless carrier. A PSAP is considered ready after it has accomplished the following:

PSAPs have difficulty determining which calls refer to the same incident. PSAPs accepting wireless 9-1-1 calls must handle an astonishing volume of duplicate calls for each incident. One typical metropolitan PSAP receives 80 to 100 calls per car crash, compared to an average of six per crash before it accepted wireless 9-1-1 calls.

FCC Rules and Orders

Under rules first established by the FCC in 1996 and revised in 1999, implementation of wireless E9-1-1 is to be accomplished in two phases. The FCC worked

- Become able to recover its costs for facilities and equipment for wireless E9-1-1;
- Ordered the equipment necessary to receive and use the wireless E9-1-1 data and have plans to install and be able to use the equipment no later than six months following the request;
- Requested the local exchange carrier (LEC) to provide the necessary trunking and other facilities, including database upgrades, to enable the wireless E9-1-1 data to be transmitted to the PSAP.

Generally speaking, once a wireless carrier has received a request for Phase II service, it has six months to install the necessary equipment and begin delivering the service to the requesting PSAP. In the case of network-based solutions, the wireless carrier must provide Phase II service for at least 50 percent of the PSAP's coverage area or population within the six-month period, and for 100 percent of the PSAP's coverage area or population within 18 months. The PSAP is under obligation to have completed its own upgrades within the same six-month timeline imposed upon the wireless carrier.

Under a revised set of orders the FCC issued in October 2001, nationwide implementation of Phase II is generally to be completed by December 31, 2005. The carriers' progress in achieving this goal is being monitored closely by the FCC.

Wireless E9-1-1 Progress

Implementing wireless E9-1-1 is a complex process that requires an unusual degree of collaboration among an array of stakeholders, along with potential changes and enhancements to network infrastructure and PSAP equipment, and involves resolution of funding issues.

As noted above, only 643 of the nation's 3,136 jurisdictions had implemented wireless location technology as of May 2003. However, the pace of implementation across the country is accelerating. In December 2002, only 33 jurisdictions had wireless call location capability.

Transportation Community's Stake in Wireless Location Issues

Traffic crashes are still the leading cause of death for young Americans. And 9-1-1 is still the essential first link in the chain of survival. For this reason, DOT has a long history of providing support for the nation's 9-1-1 system. DOT was there in 1968 when the first 9-1-1 call was made. In 1969, DOT included a recommendation for a universal emergency number in State Highway Safety funding policies. In 1973 DOT began to require that the universal emergency number be 9-1-1. By 1978, DOT was providing model legislation to help States build their 9-1-1 system. In recent years, DOT's National Highway

Traffic Safety Administration (NHTSA) and its Intelligent Transportation Systems (ITS) Public Safety Program have worked with the public safety community to support implementation of wireless location technology to save lives, reduce injuries, and improve traffic incident response time, thereby reducing incident-related travel delay.

The transportation's community's interest in wireless emergency location issues also involves technology development concerns. Wireless communications underpin evolving transportation safety technologies. For example, advanced automatic crash notification systems currently under development rely on wireless communication to instantly deliver data from a crashed vehicle to emergency responders. The data may be used to predict the probable type of injuries and their severity. Based on these predictions, dispatchers may be able to make more accurate decisions about the type of response equipment and crews to dispatch, speeding roadway clearance as well as emergency medical service delivery. Hospitals and trauma centers would be able to start calling in appropriate specialists and preparing operating rooms. Wireless location is an important element of these systems.

DOT's Wireless E9-1-1 Initiative

Recognizing the importance of increased stakeholder coordination in accelerating the pace of wireless E9-1-1 implementation, Secretary of Transportation Norman Y. Mineta convened a Wireless E9-1-1 Stakeholder Summit in April 2002. He challenged the attendees, who were leading representatives of national stakeholder groups, to form a Steering Council to develop a Priority Action Plan for Wireless E9-1-1 Implementation. The Steering Council is chaired by National Association of State 9-1-1 Administrators (NASNA) President Evelyn Bailey and includes leaders of the telecommunications, public safety, and highway safety communities.

In addition to NASNA, the Steering Council includes representatives of the Alliance for Telecommunications Industry Solutions/Emergency Services Interconnection Forum (ATIS/ESIF); the American Heart Association (AHA) Office of Public Advocacy; the American Association of State Highway and Transportation

Officials (AASHTO); the Association of Public-Safety Communications Officials (APCO); the Cellular Telecommunications and Internet Association (CTIA); Inrado, Inc.; the Intelligent Transportation Society of America (ITS America); the Integrated Justice Information Systems Industry Working Group (IWG); the International Association of Chiefs of Police (IACP); the International Association of Fire Chiefs (IAFC); the National Association of EMS Physicians (NAEMSP), the National Association of Regulatory and Utility Commissioners (NARUC); the National Association of State EMS Directors (NASEMSD); the National Conference of State Legislatures (NCSL); the National Emergency Number Association (NENA); the National Governors Association (NGA); the U.S. Department of Transportation (DOT); the Federal Communications Commission (FCC); Qualcomm; and the United States Telecommunications Association (USTA). A roster of Steering Council members appears on the inside front cover of this document.

The Steering Council is supported by the Wireless E9-1-1 Working Group, chaired by Bill Hinkle, Director of Communications for Hamilton County, Ohio and a former NENA President. The Working Group members are listed on the inside back cover of this document.

DOT Wireless E9-1-1 Steering Council Priority Action Plan

The Steering Council's Priority Action Plan is presented in Section II of this document. The Plan calls for public safety agencies, the telecommunications industry, and all levels of government to address six most urgent priorities:

- Establish support for statewide coordination of implementation of wireless location technology (known as "wireless enhanced 9-1-1," or "wireless E9-1-1"), and identify points of contact within each state for each of the stakeholders;
- Help to convene stakeholders in appropriate 9-1-1 regions in order to facilitate more comprehensive, coordinated implementation of wireless location technologies;
- Examine cost recovery/funding issues at the state level;
- Initiate a knowledge transfer and outreach program to educate Public Safety Answering Points (PSAPs), wireless carriers, and the public about wireless location issues;
- Develop a coordinated deployment strategy encompassing both rural and urban areas; and
- Implement a model location program.

Implementation of the Priority Action Plan will require expansion and coordination of ongoing wireless E9-1-1 initiatives. An overview of the ongoing initiatives is presented in Section III of this document.

II.

WIRELESS E9-1-1 PRIORITY ACTION PLAN

This section presents the Priority Action Plan that was developed by the DOT Wireless E9-1-1 Steering Council.

Statement of Principle

We recognize that our six priorities are interdependent and that successful implementation requires effective working relationships to be created and maintained among stakeholders in the private sector as well as at all levels of Federal, State, county and local government. Additional stakeholders may be identified and should be included.

ACTION ITEM #1
Establish Support for Statewide Coordination and Identify Points of Contact

Need Statement

By nature, wireless service is not limited to specific jurisdictional or governmental boundaries. However, implementation and the recovery of costs associated with implementation are often a function of such boundaries. The relationship of the two, therefore, can be a very complex and confusing mix of service providers, vendors, and public safety entities.

Discussion

Effective implementation of wireless E9-1-1 requires activities to be planned, coordinated, and monitored efficiently and productively—with involvement from all private and public safety stakeholders. However, institutional and administrative approaches to this process vary greatly among States. The Wireless Communica-

tions and Public Safety Act of 1999 encourages States to adopt a single point of contact for such activity. Indeed, the Act requires the FCC to "encourage and support efforts by States to deploy comprehensive end-to-end emergency communications infrastructure and programs, based on coordinated statewide plans, including seamless, ubiquitous, reliable wireless telecommunications networks and enhanced wireless 9-1-1 service."

This approach potentially raises issues of local control and governance. Emergency response is ultimately a local governmental responsibility, and traditionally emergency communications has also been a local government function. Historically, administrative and cost recovery infrastructure has reflected that approach. New technology, on the other hand, including, but not limited to wireless E9-1-1, is forcing these institutional arrangements to be reexamined. That is paramount, recognizing their importance to public safety and homeland security.

While many States have adopted implementation and cost recovery approaches emphasizing a single statewide point of coordination and facilitation, a great degree of diversity exists in the detail of those approaches. Furthermore, ten States have yet to adopt any implementation approach, let alone one at the State level. In light of that, this action item has two goals: 1) to assist the ten States that have not adopted an implementation approach to explore the policy and implementation issues involved, and move forward; and, 2) to foster statewide coordination in deploying wireless E9-1-1 utilizing a single statewide point-of-contact.

Political realities not withstanding, it is reasonable to assume that State government should have an inherent interest in promoting and facilitating the implementation of E9-1-1 service from a standard of care position. However, it is recognized that the methodology that a particular State may or may not employ could vary greatly and still achieve equal levels of success. Furthermore, it is recognized that the process for statewide coordination may range from facilitation and regulation of deployment at the State and local level to simple facilitation of voluntarily coopera- tion and coordination. It is also important to note that a single point of contact may be a single individual appointed to act as State coordinator, or a group of individuals or associations that serve in an advisory capacity to the State. These may range from ad hoc groups and associations of local 9-1-1 interests, to State APCO and NENA chapters, and similar coordi- nation mechanisms. These recommended action items are not intended to preempt any local jurisdiction from aggressively and independently pursuing deployment. Nor is it the intent of this action item to promote a one-size-fits-all model. What is intended is to insure that there is a recognized individual, group, or association in place in each State that is actively engaged in coordi- nating and/or facilitating the deployment of wireless location technology, and helping overcome the interjurisdictional issues involved. Ultimately, these approaches should balance local interests and responsi- bilities with regional and State perspective. More than anything else, this action item should emphasize local action, with global thinking.

Key Resource Stakeholders

Fostering statewide, coordinated approaches potentially involves many stakeholders, including:

- 9-1-1 network service providers;
- Potentially, other Customer Premise Equipment (CPE) vendors and support service providers;
- National Association of State Nine-One-One Administrators (NASNA), *and* members;
- American Association of State Highway Transportation Officials (AASHTO);
- Cellular Telecommunications and Internet Association (CTIA), *and* members;
- Federal Government, including the Federal Communications Commission (FCC), and other involved Federal agencies such as the Department of Transportation (DOT), the Federal Emergency Management Agency (FEMA) and the Department of Justice (DOJ);
- National Association of Counties (NACO), *along* with State-level associations of counties;
- National Emergency Number Association (NENA) and Association of Public-Safety Communication Officials (APCO), *including* chapter leadership, *and* members;
- National Conference of State Legislatures (NCSL);
- National Governors Association (NGA);
- National Sheriffs' Association (NSA); and the International Assocation of Chiefs of Police (IACP);
- State Governors, and their respective offices;
- State legislatures, along with relevant committee leadership;
- National League of Cities (NLC), *along* with State municipal leagues;
- Other State and local public safety, emergency medical services, and public health professionals and their associations; and
- Wireless service providers.

#	ACTION ITEM	LEAD(S)	TIME FRAME
Priority Action Plan Tasks, Lead Agencies or Organizations, & Time Frame		

#	ACTION ITEM	LEAD(S)	TIME FRAME
1	**Establish Support for Statewide Coordination and Identify Points-of-Contact**		
1.a.	Clarify and interpret national policy in this area, as necessary.	FCC	Through FY '04 (2nd Qtr)
1.b.	Provide technical assistance and guidance to States without coordinating infrastructure or resources.	NASNA and its membership	Through FY '04
1.c.	Provide leadership to foster new public policy and similar efforts in States without such structure.	Governors and their offices, State legislatures	Through FY '04
1.d.	Monitor status and progress of deployment.	NENA and APCO	Through FY '05
1.e.	Develop white paper on the advantages and disadvantages of statewide 9-1-1 institutions.	NASNA and CTIA	FY '03 (3rd Qtr)
1.f.	Educate local stakeholders.	WE9-1-1 Steering Council	Through FY '04

ACTION ITEM #2
Help Convene Stakeholders in Appropriate 9-1-1 Regions

Need Statement

Effective implementation of wireless service requires a coordinated effort by all parties involved in the process. A primary need, then, is to convene all stakeholders – both public and private, to ensure a coordinated effort. After defining respective roles and responsibilities at each level, a plan for implementation will be developed. Developing practical solutions to institutional barriers and other issues, as they arise, are critical to the success of the effort. Stakeholders will be convened frequently to monitor progress toward achieving the goals as outlined in the action plan for each region or location. Effective communications will facilitate that effort.

Discussion

Effective implementation of wireless E9-1-1 requires cooperation among agencies of the Federal government (e.g. the FCC and DOT), State governments (primarily State wireless coordinators, where they exist), local governments (especially county 9-1-1 coordinators), and the private sector. Each level of government must understand and respect the roles and responsibilities of other government entities, in order to achieve wireless E9-1-1 implementation in a well-planned manner. Clear-cut interactions among government, public safety organizations, the telecommunications industry (wireless carriers and local exchange carriers, or LECs) and other commercial firms need to be defined.

Appropriate leads for convening stakeholders will likely come from organizations such as NASNA and NGA. Both are active in wireless 9-1-1 issues at the State and national levels, and have access to decisionmakers that can have a positive impact on implementation. Private-sector stakeholders include wireless carriers, 9-1-1 network service providers, and others involved in the implementation of wireless E9-1-1.

In preparation for the 9-1-1 wireless deployment surveys under the DOT project, NENA has already completed the first ever compilation of 9-1-1 county coordinators. This information will be of value not only to the survey, but also for other tasks that involve government stakeholders.

Government at all levels must also monitor implementation of wireless E9-1-1 to ensure citizens that there is no degradation of 9-1-1 services. It is important to establish ways to measure quality of service that are easily understood and for which data can be collected.

Resource Stakeholders

There are many government stakeholders, including:

■ AASHTO;
■ County 9-1-1 Coordinators (most are members of NENA);
■ CPE vendors;
■ FCC;
■ Local elected and appointed officials;
■ NACO;
■ State 9-1-1 Coordinators (most are members of NASNA);
■ DOT;
■ Wireless carriers; and
■ 9-1-1 network service providers and other 9-1-1 service providers (e.g. telematics service providers).

#	ACTION ITEM	LEAD(S)	TIME FRAME
	Priority Action Plan Tasks, Lead Agencies or Organizations, & Time Frame		
2	***Help Convene Stakeholders in Appropriate 9-1-1 Regions***		
2.a.	Identify leads for convening stakeholders and define roles and responsibilities.	NASNA and NGA	FY '03 (3rd Qtr)
2.b.	Develop a mini-plan, including a "roadmap" for stakeholders.	NENA and APCO	FY '03 (3rd Qtr)
2.c.	Identify appropriate parties.	NENA, APCO and NASNA	FY '03 (2nd Qtr)
2.d.	Determine method(s) to involve all stakeholders.	NENA, NGA and NACO	FY '03 (3rd Qtr)
2.e.	Develop agenda for each event.	NENA and APCO	FY '03 (3rd Qtr)
2.f.	Schedule meetings and hold events.	Government agencies and private-sector partners	Through FY '04
2.g.	Monitor implementation of stakeholder convening actions.	NASNA	Through FY '04

ACTION ITEM #3
Examine Cost Recovery and Funding Issues

Need Statement

The lack of the ability to recover the costs of wireless implementation can be a barrier for public safety and the carrier. By FCC rules this is a State and local issue, not a Federal issue. The issue goes beyond just the question of whether cost recovery exists, and includes how the cost recovery funds will be utilized.

Discussion

The FCC has ruled that PSAPs are responsible for recovering costs for their own upgrades and enhancements back through the selective router, and that the carriers are responsible for their costs down to the selective router. However, States are permitted to reimburse the carrier's expenses if they so choose. Today 40 States have some type of cost recovery mechanism in place, with wide variances in the amount of the fees, the method of applying and collecting the fees, the allowable use of the fees, and the administrative oversight of the fee distribution and usage. This lack of consistency adds to the confusion regarding which of the wireless carriers' costs are to be reimbursed by the State or the PSAP, and which are to be covered by the carrier through their own rate base.

States need to clarify which expenses are eligible for recovery through their State plans, and which the carriers are expected to cover through their rate base. Firm guidelines on such issues as system configuration, system cost, and which portions of the plan each is responsible for, need to be established to guide the carriers and the PSAPs in their negotiations as they work through the implementation process. Making this information widely available will speed the implementa-

tions. Much time is lost as these things are negotiated repeatedly with each PSAP.

States that do not have any type of cost recovery mechanism need to review this issue and determine the most beneficial policy for their citizens. Those that choose not to implement a statewide fee should set guidelines for the PSAPs and carriers to follow so that each will know their responsibilities.

States that have a funding mechanism in place need to review their program and determine whether it is working and whether the income projections are adequate to cover the anticipated expenses. In the event of projected shortfalls they should be prepared to revise their fee schedule or make clear which expenses they expect to cover and which ones they expect the wireless carriers to recover (which, in turn, may include the development of guidelines on acceptable charges for these services). Wide variances in rate quotes from carriers on what appear to be similar items are causing delay in many areas. Allowable guidelines will be beneficial in speeding the process of cost reimbursement and thereby speeding deployment. These States should be prepared to make a thorough analysis of their entire process to assess how it is working and whether it can be improved.

Resource Stakeholders

- AASHTO;
- Emergency Services Interconnection Forum (ESIF);
- Local Exchange Carriers (LECs);
- NACO *and* State-level associations of counties;
- National Association of Regulatory Commissions (NARUC);
- NASNA *and* members;
- National Council of State Legislatures (NCSL), State legislatures, and their relevant committee leadership;
- NENA and APCO, *including* Chapter Leadership, *and* members;
- National Governors Association (NGA), State Governors, and their respective offices;
- National League of Cities (NLC), *along* with State municipal leagues;
- Wireless carriers (national, regional, and rural).

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Priority Action Plan Tasks, Lead Agencies or Organizations, & Time Frame

#	ACTION ITEM	LEAD(S)	TIME FRAME
3	***Examine Cost Recovery / Funding Issues***		
3.a.	Clarify policy as established by the FCC and by precedent.	FCC	FY '04 (2nd Qtr)
3.b.	Provide education to PSAPs on reasonable expense allocation.	APCO, NASNA, NENA, NARUC and USTA	FY '04 (3rd Qtr)
3.c.	Educate PSAPs about their responsibilities in Phase II implementation.	APCO and NENA	FY '04 (3rd Qtr)
3.d.	Develop guidelines and tools to assist in generating cost estimate analyses.	APCO, NENA and NARUC	FY '04 (1st Qtr)
3.e.	Prepare and publish some example cost estimates as guide lines.	DOT, APCO, AASHTO and NENA	FY '04 (1st Qtr)
3.f.	Identify potential funding sources and make information available to PSAPs.	DOT, APCO and NENA and AASHTO	FY '04

(4) ACTION ITEM #4
Initiate Knowledge Transfer and Outreach Program

Need Statement

A major barrier to accelerated deployment of wireless E9-1-1 is a lack of understanding by many PSAPs of exactly how to go about implementing wireless E9-1-1. Therefore it is a high priority to provide PSAPs with information about how to implement a successful wireless E9-1-1 program. Knowledge transfer and outreach programs are a proven method for accelerating the rate of adoption of new technologies or programs. Information dissemination to all PSAPs regarding precursor requirements and actions leading to PSAP readiness for Phase II is needed.

Discussion

A common pattern in innovation is for early adapters to lead the way for others. So it is with wireless E9-1-1 implementation. There already are many

successful programs for Wireless Phase I, and several for Wireless Phase II, most notably by the State of Rhode Island and St. Clair County, IL. Early innovators nearly always share their experiences, both good and bad, so that others can benefit from what they did correctly and avoid the problems resulting from mistakes made.

DOT plans to select and work with several "model" States and/or counties to address issues and share lessons learned. Knowledge transfer in this program is intended to accelerate the rate of wireless E9-1-1 implementation. Outreach efforts will identify what PSAPs need to do to prepare for Phase II; that is, to achieve readiness.

Resource Stakeholders

There are many stakeholders to be involved in knowledge transfer, both those who have implemented wireless E9-1-1 and those who are in need of implementing it. Stakeholders include:

- AASHTO;
- County 9-1-1 Coordinators (most are members of NENA);
- Early adopters (e.g. Rhode Island and St. Clair County, IL);
- Emergency Service Interconnection Forum (ESIF);
- Federal agencies (e.g. FCC, DOT);

Priority Action Plan Tasks, Lead Agencies or Organizations, & Time Frame			
#	ACTION ITEM	LEAD(S)	TIME FRAME
4	Initiate Knowledge Transfer and Outreach Program		
4.a.	Determine methods for knowledge transfer and outreach.	AASHTO, NENA and APCO	FY '03 (1st Qtr)
4.b.	Identify early adopters and document their experiences.	NASNA, NENA and APCO	FY '03 (3rd Qtr)
4.c.	Prepare and distribute white papers, videos, and other printed and electronic materials to all stakeholders.	PSAPs	Through FY '04
4.d.	Produce a "guidebook" on Phase II deployment.	PSAPs	FY '03 (3rd Qtr)
4.e.	Provide expert consulting team to support knowledge transfer and outreach.	DOT	Through FY '04

- LECs;
- Local elected and appointed officials;
- State 9-1-1 Coordinators (most are members of NASNA);
- Third party providers; and
- Wireless carriers.

Action Item #5:
Develop Coordinated Deployment Strategy Encompassing Both Rural and Metropolitan Areas

Need Statement

Wireless E9-1-1 deployment tends to be requested by those PSAPs/Public Safety Authorities who are most knowledgeable about 9-1-1 processes and/or who have the most resources to apply to planning, implementation, and costs. This causes service requests that are not only rather random geographically, but also tend toward

more metropolitan areas with higher wireless set concentration. Strategies are needed to enable significantly populated rural areas to deploy wireless E9-1-1 more rapidly than would otherwise occur.

Discussion

Effective implementation of wireless E9-1-1 requires that activities be planned, coordinated, and monitored efficiently and productively. We must coordinate the diverse governmental and service provider environment toward a common plan of attack on roadblocks to rapid deployment of wireless E9-1-1 in rural areas.

Considerations include wireless E9-1-1 knowledge availability (including project planning) to 9-1-1 managers in rural areas of each State, level of technology needed in regard to geographic complexity and population density in each rural area, and identification and applicability of funding sources, including grants. For instance, a single source of expertise funded and available across a State or a group of States might be a means to support the knowledge availability issue. It is noted that work under this action item should be an

Priority Action Plan Tasks, Lead Agencies or Organizations, & Time Frame			
#	ACTION ITEM	LEAD(S)	TIME FRAME
5	*Develop Coordinated Deployment Strategy Encompassing Both Rural and Metropolitan Areas*		
5.a.	Develop deployment characteristics.	NASNA, NGA, and NACO	FY '03 (4th Qtr)
5.b.	Develop project plans and deployment sequence by State, where they do not currently exist.	NASNA, NENA and APCO	Through FY '03
5.c.	Identify rural area strategies.	NASNA, NGA, AASHTO and NACO	FY '03 (4th Qtr)
5.d.	Identify infrastructure needs, and PSAP operational needs.	NENA	FY '04 (1st Qtr)
5.e.	Identify alternative funding sources and strategies (e.g., rural health program grants).	NASNA, NENA and APCO	FY '03 (3rd Qtr)
5.f.	Establish common service agreement/contract.	NASNA, NENA and APCO	FY '04 (1st Qtr)

important contribution to Action Item 1.e. above (white paper dealing with the advantages and disadvantages of statewide approaches and institutions to wireless implementation).

Key Resource Stakeholders

- AASHTO;
- ESIF;
- FCC;
- NACO;
- NASNA;
- NENA and APCO;
- NGA;
- DOT; and
- Wireless carriers operating in the region.

Action Item #6:
Implement Model Location Program

Need Statement

A number of issues have been identified as potential barriers to the deployment of wireless telephone location technology. These issues range from PSAP readiness, to who pays for what. Some of the issues are complex and pose some real challenges, while others appear to be more bureaucratic or procedural in nature. The purpose of this action item is to clearly identify and isolate some of these issues in a model or test case environment. The well-documented results of these model programs will greatly assist all stakeholders in understanding what each entity must do to achieve success.

Discussion

These models programs need to represent true cross-sections of the PSAPs, including large, small, and midsize agencies. They should include PSAPs that are technologically advanced as well as those that lack funding resources. They should also represent wireless carriers and local exchange carriers, both large and small. The models will serve to assist the telephone service providers as well as the PSAPs. Through the use of model programs the Steering Committee will need to determine what the critical success factors must be. Careful selection should be made to ensure that a representative sampling of systems is utilized.

In determining the criteria for participation, emphasis should be placed on the commitment of all parties involved and not on any monetary incentive that may be derived. While some financial assistance may be forthcoming, it should be clear that the participating PSAP must have its own ongoing source of self funding. Emphasis should be placed on the technical support and commitment from participating public and private stakeholders. Agencies selected to serve as models must be willing to devote the time necessary to fully document their process and progress. Additionally, the wireless carriers must be willing to make a similar commitment, as this may be a learning process for them as well. The documentation process and the subsequent development of educational case studies are the real values of this action item. Models can be a very effective learning experience and educational tool, but only if they are carefully selected and examined.

It is noted that activities under this Action Plan need to be reviewed to ensure that model sites are providing information that will useful to many. The following criteria are recommended for use in selecting model locations:

1. Cost recovery status (legislation; policy)
2. Leadership
3. Carrier community readiness

4. PSAP readiness
5. LEC readiness
6. Geography (mix; national location; etc.)
7. Metro/rural
8. Homerule vs. centralized State authority
9. Interoperability with public safety

Resource Stakeholders

- NASNA *and* members;
- DOT;
- PSAP officials;
- CTIA/Telephone Service Providers;
- NGA;
- National Conference of State Legislatures (NCSL);
- AASHTO;
- NENA and APCO *including* Chapter leadership, *and* members;
- ESIF;
- National League of Cities (NLC), *along* with State municipal leagues; and
- NACO *along* with State-level associations of counties.

Priority Action Plan Tasks, Lead Agencies or Organizations, & Time Frame			
#	ACTION ITEM	LEAD(S)	TIMEFRAME
6	*Implement Model Location Program*		
6.a.	Establish criteria for selection of model locations.	WE9-1-1 Steering Council	FY '03 (3rd Qtr)
6.b.	Establish procedures for collecting and analyzing information from the models.	USDOT	FY '04 (1st Qtr)
6c.	Establish methods of disseminating "lessons learned" to all interested stakeholders.	USDOT	FY '04 (1st Qtr)

III.

IMPLEMETATION OF THE ACTION PLAN: ONGOING COORDINATION OF STAKEHOLDER INITIATIVES

Accomplishment of the Priority Action Items will require expansion and coordination of ongoing wireless E9-1-1 stakeholder initiatives. An overview of ongoing stakeholder initiatives follows.

Overview of Ongoing Stakeholder Initiatives

DOT Wireless E9-1-1 Technical Assistance

Wireless Implementation Program: DOT's Intelligent Transportation Systems (ITS) Public Safety Program provides technical assistance, guidance and training to accelerate PSAP readiness for wireless E9-1-1 through a Wireless Implementation Program lead by the National Emergency Number Association (NENA) in partnership the Association of Public-Safety Communications Officials (APCO) and the National Association of State 9-1-1 Administrators (NASNA). Elements of this program include:

- The NENA/DOT Clearinghouse *(http://dot.nena.org/index.asp)*, a national database of Wireless E9-1-1 planning, implementation, and operations resources. Included are example contracts, agreements, and other documents from various States and working groups to assist PSAPs, wireless carriers, and Wireless E9-1-1 service system providers.
- The Wireless Deployment Profile and Map *(http://198.30.105.186)*, which provides a database of current status information on Wireless E9-1-1 implementation, searchable by county and State.
- The Wireless Education Program for PSAPs, including three informational videos on Wireless E9-1-1: one for the general public; one for PSAP officials; and one for carriers. The PSAG education video is used in NENA's new "Introduction to Wireless for PSAPs" course that focuses on wireless 9-1-1 related issues that affect PSAPs. Beginning with Phase 0 and working through Phase II deployment, this fast-paced six-hour

course is presented at an introductory and easy to understand level, targeted to the non-technical members of PSAPs and the 9-1-1 community. The first courses were conducted in May 2003.

New York State Wireless Enhanced 9-1-1 Project: DOT's ITS Public Safety Program is providing funding support to the Department of Emergency Medicine at the State University of New York Upstate Medical University in Syracuse, NY for development of an implementation plan for a Statewide wireless E9-1-1 system and implementation assistance to other States and localities.

New York State is an ideal testing ground for identifying the institutional barriers to implementation of wireless E9-1-1 and exploring alternative strategies for addressing these barriers. New York is a large State with a mix of urban, rural and suburban communities. Its counties are arrayed across a broad spectrum of readiness for wireless E9-1-1. While some counties have launched, others are preparing to declare readiness for wireless E9-1-1, and still other counties have yet to institute wireline 9-1-1. New York State also faces a wide variety of institutional, financial, and political barriers to wireless E9-1-1 implementation that are representative of States and counties throughout the nation.

An initial three-year grant funded in the fall of 1999 through the DOT's ITS Public Safety Program allowed the Department of Emergency Medicine to engage key stakeholders from across New York State. Early in the project, key stakeholders were gathered to define barriers to implementation, identify key resources and develop strategies. At their first meeting, this group of stakeholders formed the New York State Emergency Call Locator Partnership.

The New York State Wireless Enhanced 9-1-1 Project produced an *Implementation Guide* and a *Lessons Learned* report. Both were published in the fall of 2002 and are available on the Internet at *www.its.dot.gov.* Click on "Public Safety" and then "Wireless Enhanced 9-1-1."

Emergency Services Interconnection Forum (ESIF)

The Emergency Services Interconnection Forum (ESIF) is the primary forum for the telecommunications industry, public safety, and other stakeholders to resolve technical and operational interconnection issues related to telephony and emergency services networks. ESIF is a collaboration between Alliance for Telecommunications Industry Solutions (ATIS) and the National Emergency Number Association (NENA). The major carriers and other key stakeholders are involved in ESIF.

ESIF recently released a PSAP Readiness Checklist. The checklist provides PSAPs with a method to verify readiness and provide carriers with complete information to speed the Phase II implementation process. The checklist is part of a package that includes an introduction and instructions document. The package can be accessed on the ESIF web site at *www.atis.org/atis/ESIF/ESIFdocs.htm.*

ESIF also is working on approximately 20 other current technical and operational issues relating to 9-1-1 and E9-1-1. A full list of issues is available on the web at *http://atis.org.* (Click on the ESIF link at the bottom of the page and then click on "Issues" from the menu at the left of the ESIF home page.) Priority issues include:

- Routing of Wireless 9-1-1 calls
- Phase II Test Methodology
- Standardization of Text Messages Received by PSAPs
- Callback Capability and Donated and Prepaid Wireless Handsets
- International Roamers Making 9-1-1 Calls.

APCO's Project LOCATE

The Association of Public-Safety Communications Officials International (APCO) represents more than 16,000 public safety communications professionals who manage, operate, maintain, and supply 9-1-1 centers. APCO's Project LOCATE (Locating Our Citizens At Times of Emergency) has established a nationwide network of model deployment communities. Documenting each

community's progress in Phase II wireless E9-1-1 deployment is producing valuable case study information that can be used as deployment models by other communities across the nation.

Model communities were selected for 49 States and the District of Columbia. The model communities represent a wide cross-section, ranging in size from small cities to an entire State. They represent the technologically astute, and the challenged—in other words, the real world.

Project LOCATE compiles local, State, and national data on regulatory, legislative, technical, financial, and institutional barriers that the model communities encounter, in order to identify and address the most common problems. Project LOCATE also offers technical support to the model communities. In States that are still struggling with cost recovery issues, APCO helps champion funding initiatives by providing statistical support, expert testimony at hearings, and help with media relations.

Project LOCATE was initiated in 2001 and is partially supported by a grant from the U.S. Department of Transportation's (DOT's) Intelligent Transportation Systems (ITS) Public Safety Program. For more information, go to *www.apco911.org /about/ gov/ wireless.html.*

NENA Strategic Wireless Action Team (SWAT) Initiative

The National Emergency Number Association's (NENA's) members manage 9-1-1 centers. With support from the PSAP Readiness Fund, a 501 (c) 4 non-profit agency endowed by NEXTEL, NENA has convened national leaders and technical and operational experts to identify priorities for upgrade of the 9-1-1 system, focusing on wireless E9-1-1 deployment.

Specifically, NENA SWAT supports the following goals:

- Completion of a national E9-1-1 infrastructure for wireline and wireless 9-1-1 technologies;
- Provision of technical implementation and support teams to assist local and State agencies in deployment of enhanced and supportive technologies;

- Provision of legislative, regulatory and policy guidance and expertise at national, State and local levels; and
- Development of PSAP readiness evaluation criteria.

NENA SWAT consists of a leadership team comprised of NENA's Executive Board and staff members to support four functional teams. The Technical, Operations, Policy and Finance teams are staffed by subject matter experts in their respective areas of interest.

SWAT Operations Team: The Operations Team has implemented a nationwide study to develop staffing and budget models from which those 432 counties in the United States without Enhanced 9-1-1 can project staffing and budget needs to implement Wireless E9-1-1 Phase I service. This survey-based study will build upon the data in the NENA/DOT Project and add important budgetary information to arrive at profile-specific models.

SWAT Technical Team: The Technical Team has developed and distributed cost element spreadsheets for the following stakeholders: LEC; CLEC; PSAP managers; wireless carriers; and stand-alone ALI vendors. Cost Model Configurations have been developed, along with a set of data requirements, for PSAPs in three size categories—rural (small), suburban (medium), and urban (large). For each category, the costs for various upgrade steps have been determined. Guidance on the effects of various technical improvements or substitutions on costs and schedules also is being prepared.

SWAT Policy Team: The Policy Team develops model legislation for Statewide wireless 9-1-1 programs and cost-recovery funding models. The team also defines policy parameters and develops policy Statements on major issues. For more information, see the NENA/DOT Clearinghouse at *http://dot.nena.org/index.asp*

SWAT Finance Team: Many of the barriers to deployment ultimately involve funding issues. The SWAT Finance Team addresses regulatory and State and Federal legislative issues, guides cost recovery policy development, and guides national public relations and political efforts to secure appropriate cost recovery policies. A consulting firm (The Monitor Group of Cambridge, MA) supports the Finance and Policy teams in development of future funding models for 9-1-1, and addressing other related and cogent public policy issues

associated with the implementation of wireless E9-1-1. Building a consensus on those issues among key stakeholders in an important objective of this initiative.

NASNA's Links to State 9-1-1 Web Sites

The National Association of State 9-1-1 Administrators is a professional organization representing the 32 States that currently have a central 9-1-1 planning or administrative function. NASNA's web site offers links to State 9-1-1 Web sites at *http://www.nasna911.org/links.htm.*

Public Safety Foundation of America

Inspired by a grant from the PSAG Readiness Fund to support Public Safety Answering Point (PSAP) readiness for wireless E9-1-1, the Public Safety Foundation of America is a charitable foundation formed by the Association of Public-Safety Communications Officials International (APCO). The Foundation accepts private, corporate and public donations on behalf of the public safety community and distributes the funds to provide both financial grants and technical support to individual nonprofit PSAPs across the nation. The APCO Board of Officers serves as the Board of Directors for the Foundation. A Foundation Advisory Committee, consisting of the following member organizations, is responsible for reviewing all applications and recommending approval of grants:

- National Association of Counties (NACO);
- International Association of Chiefs of Police (IACP);
- International Association of Fire Chiefs (IAFC);
- National League of Cities (NLC);
- National Association of State EMS Directors (NASEMSD);
- National Governors' Association (NGA);
- Nation°å Emergency Number Association (NENA);
- Association of Public Safety Communications Officials, International (APCO).

Funding Priorities: At this time the Public Safety Foundation's primary focus is to support projects that are specific to the receipt and processing of 9-1-1 calls from wireless telephone devices. Radio projects or the related transmission of wireless data are not within the scope of the Foundation's funding priorities. Projects requesting full replacement of 9-1-1 customer premise equipment would normally be considered outside of the funding scope of the foundation. Grant requests should clearly indicate a direct relationship to wireless location technology deployment, i.e. Phase I and Phase II.

The Foundation makes grants in the following areas:

- **Planning and Coordination Proposals -** This area may include expenses related to determining how to best implement wireless 9-1-1 location technology for a single PSAP, or for county, regional, or Statewide coordination.
- **PSAP Equipment and Technology Proposals -** This area may cover expenses associated with the physical equipment required for an acquisition or upgrade to make a PSAP capable of receiving and utilizing information on wireless Phase II calls. This could include the initial purchase of hardware or software, upgrades, or installations of needed telephone circuits, and database creation.
- **Strategic Deployment Initiative Proposals -** This area may cover funding for programs designed at a high level to address implementation challenges and issues related to improving the overall quality of the wireless location technology delivery system.
- **Education Proposals -** This area may be used to develop programs to educate public safety agencies and other stakeholder groups about the importance of implementing wireless telephone location technology and other education programs for other wireless 9-1-1 related issues.

In the initial round of grant awards announced February 18, 2003, the following projects were funded:

1. Alabama: $9,465 to the Elmore County E9-1-1
2. Alaska: $500,000 to the Anchorage Police Department
3. Arkansas: $43,700 to the Fulton County 9-1-1
4. Colorado: $150,000 to the Denver Police Department
5. District of Columbia: a total of $300,000 to two grantees: the International City/County Management Association ($150,000) and Public Technology, Inc. ($150,000)

6. Florida: $20,000 to the Flagler County Board of County Commissioners
7. Georgia: a total of $79,000 to two grantees: the Rockdale County 9-1-1/EOC ($47,000) and the Monroe County Sheriff's Office E9-1-1 ($32,000)
8. Illinois: $50,000 to the Northwest Central 9-1-1 System
9. Minnesota: a total of $68,260 to four grantees: the Metropolitan 9-1-1 Board ($21,160); the St. Louis Park Police Department ($18,600); the Cook County Sheriff's Department ($18,500); and the Beltrami County Sheriff's Office ($10,000)
10. Missouri: $25,350 to the Cooper County EMA/9-1-1
11. Montana: a total of $96,250 to two grantees: the State of Montana Department of Administration ($50,000) and the Lewistown Police Department ($46,250)
12. Nebraska: $77,000 to the City of Lincoln
13. North Dakota: $267,000 to the North Dakota Association of Counties
14. Ohio - $5,489 to the Olmstead Township Police Department
15. Pennsylvania: a total of $80,100 to two grantees: the County of Erie 9-1-1 Center ($40,100) and the City of Philadelphia Police Department ($40,000)
16. South Dakota: $50,000 to the South Dakota Association of County Commissioners
17. Tennessee: $24,100 to the Cheatham County Emergency Communications District
18. Washington: a total of $320,000 for two grantees: the Lewis County Communications Center Division ($281,000) and the Adams County Sheriff's Office ($39,000)
19. Wisconsin: $55,000 to the Vilas County Sheriff's Department
20. Wyoming: a total of $163,500 to two grantees: the City of Laramie Police Department ($55,000) and the Sheridan Police Department ($113,500)

In the second round of grant awards announced June 30, 2003, the following projects were funded:

1. Arkansas: $23,049 to the Pike County Sheriffs Office
2. Arizona: $55,889 to the Cottonwood Police Department; $55,940 to the Mohave County Sheriff's Office; and $89,704 to the Tohono O'odham Nation
3. California: $96,108 to Santa Clara County

Communications; and $20,000 to the Whittier Police Department
4. Florida: $26,671 to the Jackson County E9-1-1; $34,684 to the Glades County Sheriff's Office; $68,985 to the Monroe County Emergency Communications Department; and $98,780 to the Martin County E9-1-1
5. Georgia: $62,145 to the Lumpkin County E9-1-1; $4,000 to the Fannin County E-911; $17,500 to the City of Morrow Emergency Communications Department; and $63,350 to the Columbia County Sheriff's Office E9-1-1
6. Iowa: $79,133 to the Warren County E9-1-1 Joint Service Board; $500,000 to the Iowa Emergency Management Division E9-1-1 Program; $33,212 to the Black Hawk Public Safety Consolidated Communications Center; $7,500 to the Mahaska County E9-1-1 Center; and $56,200 to the Pottawattamie County 9-1-1/Communications Center
7. Idaho: $59,938 to the Sandpoint Police Department; and $25,000 to the Southern Idaho Regional Commmunications Center
8. Illinois: $30,000 to the Kankakee County 9-1-1
9. Indiana: $14,000 to the Wells County 9-1-1 Bluffton Dispatch Center; and $32,064 to the Wayne County Emergency Communications Department
10. Kentucky: $54,755 to the Boone County Public Safety Communications Center; $37,700 to the Hardin County E9-1-1 Center; $22,250 to the Grant County Public Safety Communication Center; and $36,377 to the Campbell County Consolidated Dispatch Center
11. Louisiana: $55,000 to the Washington Parish Communications District
12. Michigan: $96,967 to the Van Buren County Sheriff's Department
13. Minnesota: $37,420 to the Waseca County Sheriff's Office; and $6,825 to the Lake County Sheriff's Department
14. Missouri: $23,195 to the East Central Dispatch Center, Richmond Heights; $36,000 to the Columbia - Boone County Public Safety Joint Communications; and $16,850 to the Dallas County 9-1-1
15. Mississippi: $17,200 to the Jefferson Davis County

Board of Supervisors; $36,000 to the Neshoba County Emergency Management Agency

16. Montana: $50,000 to the Gallatin County/City of Bozeman 9-1-1 Communications
17. North Carolina: $39,497 to the Alexander County Communications
18. Nevada: $68,315 to the Carson City Sheriff's Department; and $44,805 to the Eureka County Sheriff's Office
19. New York: $30,250 to the Erie County Central Police Services; and $63,500 to the Nassau County Police Department
20. Ohio: $42,000 to the Clermont County Department of Public Safety Services; $110,952 to the Geauga County 9-1-1; and $16,500 to the Miamisburg Police Department
21. Oklahoma: $104,782 to the Broken Arrow Police Department
22. Pennsylvania: $71,099 to the Pike County 9-1-1; $10,000 to the Lycoming County Department of Public Safety; and $13,333 to the Westmoreland County Department of Public Safety

23. Utah: $19,650 to the Beaver County Sheriff's Department; $91,364 to the Wasatch County Sheriff's Office; and $80,051 to the 9-1-1 Public Safety Answering Point Provo City Communications
24. Virginia: $17,000 to the Vinton Police Department
25. Washington: $117,239 to the Garfield County E9-1-1
26. Wisconsin: $28,000 to the St. Croix County Emergency Communications
26. West Virginia: $43,200 to the Wood County Central Telecommunications Center

The schedule for future grant applications is shown below.

ROUND 4:
Pre-application by
December 5, 2003
Grant application submitted by
January 2, 2004

A downloadable grant application is available at
http://www.psfa.us/

APPENDIX: ACTION ITEM TASKS

This Appendix provides a discussion of tasks necessary for accomplishment of each Action Item.

PRIORITY ACTION PLAN TASKS

ACTION ITEM # 1 TASKS

1.a. Clarify and interpret national policy in this area, as necessary.

Lead Stakeholder: FCC

Time Period: through FY '04 (2nd Qtr)

Contributing Stakeholders: NENA, APCO and NASNA

Comment: By legislation, Congress has already established national policy in this area, and the FCC has promulgated rules implementing that policy. Interpretative guidance by the FCC may be appropriate and beneficial, as necessary. The national associations, including NENA's SWAT Initiative, may also help provide coordination in this area.

Critical Factors:

- Implementation of this policy depends upon State and local public policy, and associated implementation approaches.
- Leadership will be critical.

- Further Congressional action may be necessary. Program and project coordination can be provided in many ways.

1.b. Provide technical assistance and guidance to States without coordinating infrastructure or resources.

Lead Stakeholder: NASNA and its membership

Time Period: through FY '04

Contributing Stakeholders: NENA and APCO

Comment: NASNA and its membership are in a position to assist States in establishing legislation and statewide coordinating infrastructure. NASNA should organize itself to provide that kind of support. NENA and APCO can assist in developing, documenting and distributing model efforts, legislation and policy. NENA's SWAT initiative is particularly focused at this effort.

Critical Factors:

- Funding, time and resources

(cannot depend upon solely volunteer effort).

- Leadership will be critical.
- Efforts must be focused to specific situations and locations within the State and local arena.

1.c. Provide leadership to foster new public policy and similar efforts in States without such structure.

Lead Stakeholders: Governors and their offices, State legislatures

Time Period: through FY '04

Contributing Stakeholders: NGA, NCSL, NENA, APCO and NASNA

Comment: All of the above stakeholders have a role to play in this effort. Ultimately the lead role is at the State level. NGA and NCSL can provide guidance, support and encouragement. So can the public safety community, along with State municipal and county associations, APCO, NENA, and NASNA, and the wireless industry.

Critical Factors:

- Experiences and support should be provided State and local governments to help establish appropriate public policy.
- Efforts must be focused to specific needs and situations.
- Additional funding and resources may be required to provide comprehensive and effective support.

1.d. Monitor status and progress of deployment.

Lead Stakeholders: NENA and APCO

Contributing Stakeholder: NASNA

Time Period: through FY '05

Comment: Good public policy and procedure depends upon good descriptive and factual information. Keeping track of deployment characteristics across the country will be essential to proper coordinatiion and management of the implementation process. NENA, along with APCO, with support from a variety of sources, are currently under contract to help perform this function.

Critical Factors:

- Maintaining and updating this resource will be critical. That may require additional resources beyond 2003.
- Self-reporting of status information and data will be helpful.

1.e. Develop white paper on the advantages and disadvantages of Statewide 9-1-1 institutions.

Lead Stakeholders: NASNA and CTIA

Time Period: FY '03 (3rd Qtr)

Contributing Stakeholders NENA, APCO, NGA, NCSL

Comment: While ultimately acknowledging the inherent advantages of Statewide coordination, this paper should also reflect the potential disadvantages of focusing implementation, coordination and oversight at the State level. Special attention should be specifically focused in the areas of local control and governance, and the distribution of wireless revenues for the purpose of cost recovery. Parochial interests not withstanding, ideally the intent of this action item should be to provide a fair assessment of the advantages and disadvantages of Statewide coordination.

Critical Factors

- Review should not only address coordination options, but implementation and funding options as well.
- Timing will be important.
- NENA's SWAT Initiative will explore advantages and disadvantages of various funding options.

1.f. Educate local stakeholders

Lead Stakeholders: Steering Council

Time Period: through FY '04

Contributing Stakeholders: Steering Council members, Expert Working Group members

Comment: This task involves the products of this "Priority Action Item" and their implementation through member constituencies, State, regional and local memberships, as appropriate. A variety of models may be described, reflecting various approaches to program implementation and coordination. DOT's current contract with NENA and APCO, along with NENA's SWAT Initiative, APCO's Public Safety Foundation,

and other resources can contribute.

Critical Factors:

■ To some extent, assistance under this item must be focused to specific States and their local characteristics.

■ Additional resources and funding may be required.

ACTION ITEM # 2 TASKS

2.a. Identify leads for convening stakeholders and define roles and responsibilities.

Lead Stakeholders: NASNA and NGA

Time Period: FY '03 (3rd Qtr)

Comment: It is important that appropriate leads for convening stakeholders be identified, and that roles and responsibilities are defined. NASNA and NGA represent State-level organizations that must be part of any implementation process. Other stakeholders will also be identified.

Critical Factors:

■ Identify appropriate divisions/individuals within NASNA and NGA.

■ May require additional dedicated resources to support lead stakeholder role (APCO's Public Safety Foundation may be a possible source).

2.b. Develop a mini-plan, including a "roadmap" for stakeholders.

Lead Stakeholders: NENA and APCO

Time Period: FY '03 (3rd Qtr)

Contributing Stakeholders: NGA, NASNA, AHA, and AASHTO

Comment: This mini-plan will guide the work to be accomplished. It will serve as a "roadmap" for all stakeholders that identifies steps to be taken by public and private partners that provide a path to wireless E9-1-1 deployment. It will include a Gantt chart of tasks and milestones, best methods to convene all stakeholders (workshops, summit-type meeting, web conferencing), and target dates that may coincide with DOT schedules for expert committee and steering committee meetings. Parallel efforts by other general public/special interest groups will be recognized and to the extent possible, incorporated into the mini-plan.

Critical Factors:

■ NENA will be the lead association for the mini-plan. This is consistent with the DOT project.

2.c. Identify appropriate parties.

Lead Stakeholders: NENA, APCO and NASNA

Time Period: FY '03 (2nd Qtr)

Comment: This task will identify appropriate parties at each governmental level, with the product being a list of organizations and individuals to represent each entity. Private-sector stakeholders will also be identified.

Critical Factors:

■ Activities under the DOT Wireless E9-1-1 Initiative have identified stakeholders, which will form the first-cut list of appropriate parties.

■ Additional stakeholders may need to be identified.

2.d. Determine method(s) to involve all stakeholders.

Lead Stakeholders: NENA, NGA and NACO

Time Period: FY '03 (3rd Qtr)

Contributing Stakeholders: DOT

Comment: Identify events (e.g. conferences) where we can "piggyback" on attendees already convening. Prepare single guidance document for all States/counties.

Critical Factors:

■ Will meet with NGA and NACO to accomplish this task.

■ Funding and other resources may be a factor.

2.e. Develop agenda for each event.

Lead Stakeholders: NENA and APCO

Time Period: FY '03 (3rd Qtr)

Comment: Agendas for each event will be targeted to all stakeholders involved, and and be relevant to what needs to be accomplished in each respective region.

Critical Factors: NENA's DOT project staff will lead this effort.

2.f. Schedule meetings and hold events.

Lead Stakeholders: Government agencies and private-sector partners

Time Period: through FY '04

Contributing Stakeholders: NENA, APCO, AASHTO and NASNA

Comment: Events may include meetings, workshops, and web conferences. Following each event, major findings will be documented and distributed to all interested parties.

Critical Factors:

- A detailed calendar of meetings and events will be prepared by NENA's DOT project staff.

2.g. Monitor implementation of stakeholder convening actions.

Lead Stakeholder: NASNA

Time Period: through FY '04

Comment: Over time stakeholders will implement various actions to implement wireless E9-1-1. This subtask entails monitoring those actions and their positive impact on implementation. Progress will be reported back to all stakeholders so that successes can be shared among all parties.

Critical Factors:

- NASNA will appoint a working group to monitor implementtion and will develop a reporting mechanism. May require support from NENA and APCO.

- May require additional funding and resources.

ACTION ITEM # 3 TASKS

3.a. Clarify policy as established by the FCC and by precedent.

Lead Stakeholder: FCC

Contributing Stakeholders: ESIF, NENA, APCO and NASNA

Time Period: FY '04 (2nd Qtr)

Comment: The FCC has ruled that the selective router will be the demarcation point for cost splitting, but this ruling needs to be more specific on certain cost items. How the FCC ruling is applied to the technical or mechanical delivery of a wireless E9-1-1 call (in light of the nature and approach of the ruling) may affect cost recovery responsibility in some States. It is noted that the ESIF is attempting to help address this clarification issue (by clarifying—not developing). Additionally, the issue of only "partial" cost recovery being available to carriers in some States needs to be addressed to prevent this being a roadblock.

Critical Factors:

- More specific FCC rulings/ clarifications as necessary.
- Cost and practice standardization by the industry.

3.b. Provide education to PSAPs on reasonable expense allocation.

Lead Stakeholders: APCO, NASNA, NENA and NARUC

Time Period: FY '04 (3rd Qtr)

Comment: The PSAPs need to know which expenses they can reasonably be expected to cover, which the carriers should cover, and receive guidance that will help them through negotiations with the carriers.

Critical Factors:

- Development of educational material using data from models and successful implementations.
- Establishment of cost models by wireless carriers.
- Development and distribution of upgrade guidelines (equipment needs, software needs, network requirements, cost estimates).
- Cooperative, and coordinated efforts by public safety agencies in providing educational opportunities and materials.
- Funding methods to allow lowcost symposiums/forums for PSAPs to attend.
- Knowledgeable writers to develop articles for publication, to explain technical subject matter in laymen's terms, and wide publication of these articles.

3.c. Educate PSAPs about their responsibilities in Phase II implementation.

Lead Stakeholders: APCO, NENA

Time Period: FY '04 (3rd Qtr)

Comment: Much confusion still exists regarding what actions need

to be taken, which expenses each party may incur, and how much is a reasonable amount to pay.

Critical Factors:

■ Cooperative, and coordinated efforts by public safety agencies to provide educational opportunities and materials.

■ Funding resources to support low-cost symposiums/forums for PSAPs to attend.

3.d. Develop guidelines and tools to assist in generating cost estimate analyses.

Lead Stakeholders: APCO, NENA and NARUC

Time Period: FY '04 (1st Qtr)

Comment: Development of a "cookbook" on implementing Phase II will be very beneficial to agencies involved in the learning process.

Critical Factors:

■ Development of educational material using data from models and other successful implementations.

■ Establishment of cost models by carriers.

■ Development of upgrade guidelines.

3.e. Prepare and publish some example cost estimates as guidelines.

Lead Stakeholders: DOT, APCO, AASHTO and NENA

Time Period: FY '04 (1st Qtr)

Comment: As systems are implemented we should gather the actual costs of the various components and make them available to other agencies, identifying, where appropriate, that these may vary with local tariffs.

Critical Factors:

■ Development of educational material using data from models and other successful implementations.

■ Establishment of cost models by carriers.

■ Development of upgrade guidelines.

3.f. Identify potential funding sources and make information available to PSAPs.

Lead Stakeholders: DOT, APCO, AASHTO and NENA

Time Period: FY '04

Comment: From a broad perspective identify potential funding sources (like APCO's Public Safety Foundation, and other public and private sources). Make this information available through Web sites and distribution channels used for all educational information.

Critical Factors:

■ Identification of useable information.

■ Wide dissemination of this information, particularly to PSAPs outside of the "mainstream."

ACTION ITEM # 4 TASKS

4.a. Determine methods for knowledge transfer and outreach.

Lead Stakeholders: AASHTO, NENA and APCO

Time Period: FY '03 (1st Qtr)

Comment: Outreach tools may include written "how-to" products similar to those guidelines already prepared by NENA, white papers on key issues, video tapes, and workshops/seminars. A 12-15 month schedule will be developed to specify when and how these tools will be developed.

Critical Factors:

■ DOT project staff will determine methods and develop a 12-15 month schedule.

■ Funding for widespread distribution of products may become an issue.

4.b. Identify early adopters and document their experiences.

Lead Stakeholders: NASNA, NENA and APCO

Time Period: FY '03 (3rd Qtr)

Comment: Early adopters include the State of Rhode Island, St. Clair County (IL), and those who have already requested Phase II. Their experiences will be documented - what went right, pitfalls to avoid, lessons learned, helpful hints to others.

Critical Factors:

■ Ability to identify and contact early adopters. Procedures to do this are already in place with

NASNA members.
- May require support from APCO and NENA.
- May require additional funding and resources.

4.c. Prepare and distribute white papers, videos, and other printed and electronic materials to all stakeholders.

Lead Stakeholders: PSAPs

Time Period: through FY '04

Contributing Stakeholders: NENA, APCO and DOT

Comment: White papers and videos are being prepared by NENA with funding from DOT. These materials will be distributed to PSAPs and other stakeholders from lists developed by NENA and DOT. Outreach to the general public and other special interest groups, such as the American Heart Association (AHA) and the National Heart, Lung and Blood Institute (NHLBI), will also be accomplished in this task. Knowledge transfer and outreach will be reviewed on a quarterly basis. This in itself is another form of knowledge transfer important to DOT and other stakeholders.

Critical Factors:

- Timely preparation of white papers.
- Distribution lists will be maintained as part of the DOT project.
- Costs of video distribution need to be determined.

4.d. Produce a "guidebook" on Phase II deployment

Lead Stakeholders: PSAPs

Time Period: FY '03 (3rd Qtr)

Comment: A guidebook for PSAPs and other stakeholders on how to achieve Phase II deployment will be written and distributed under this Action Plan.

Critical Factors

- NENA and APCO will prepare the guidebook, with input and review by approppriate stakeholders.

4.e. Provide expert consulting team to support knowledge transfer and outreach.

Lead Stakeholder: DOT

Time Period: through FY '04

Comment: Expert consultants will be available to assist PSAPs with their readiness for wireless E9-1-1 implementation.

Critical Factors:

- NENA's DOT project staff will be the core of the technical outreach team.
- Will require additional funding and resources.

ACTION ITEM # 5 TASKS

5.a. Develop deployment characteristics.

Lead Stakeholders: NASNA, NGA, and NACO

Time Period: FY '03 (4th Qtr)

Contributing Stakeholders: NENA, APCO, AASHTO and CTIA

Comment: Identify wireless customer quantities and growth rates on a per-county (or equivalent) basis. Include factors for major highway pass-through and commuter movement between rural and metro areas. Identify present county deployment status.

Critical Factors:

- Customer and calling rate information must be developed, by cell tower set associated with counties, from wireless carriers.
- Data on commuter and highway traffic rates.
- Reporting capabilities from the NENA/DOT survey data base.
- Potential additional funding to support above.

5.b. Develop project plans and deployment sequence by State, where they do not currently exist.

Lead Stakeholders: NASNA, NENA, and APCO

Contributing Stakeholders: NCSL, NGA, NACO and CTIA

Time Period: through FY '03

Comment: These plans will guide the work to be accomplished. They will include a Gantt chart of tasks and milestones, best methods to convene government stakeholders (workshops, conference calls, and web-based meetings), and target dates. Convene stakeholders by State, and, where needed, identify

a lead team from the stakeholder groups, who will then define the wireless deployment State project plan and schedule, based on activities below and additions.

Critical Factors:

- Model project plan development.
- Summary of best practices for stakeholder collaboration methods.
- Funding to accomplish above.

5.c .Identify rural area strategies.

Lead Stakeholders: NASNA, NGA, AASHTO and NACO

Time Period: FY '03 (4ᵗʰ Qtr)

Contributing Stakeholders: NENA, APCO, CTIA, and RCA

Comment: Identify strategies for alternate organizational, infrastructure and cost recovery/funding models that can be successfully applied for rural area support.

Critical Factors:

- Modification of model project plans to match rural factors.
- Summary information on best practices for rural stakeholder collaboration methods.
- Funding work required as necessary.

5.d. Identify infrastructure needs, and PSAP operational needs.

Lead Stakeholders: NENA

Time Period: FY '04 (1ˢᵗ Qtr)

Contributing Stakeholders: APCO and NASNA

Comment: Identify carriers and 9-1-1 service system providers by county. Identify PSAP, 9-1-1 system, and carrier capability issues, such as network, switching, and data equipment capability, E 9-1-1 system upgrade requirements, wireless methodology needs, mapping needs, etc. Identify PSAP call-taking requirements, such as staffing and training, and funding impacts and needs, by county. Propose a national policy for call routing, analyze impacts and funding needs for E9-1-1 system upgrade requirements to support call delivery for all service areas (NENA is already working this issue in its Technical Development and SWAT Initiative process).

Critical Factors:

- Survey and evaluation of remaining information needs, as above.
- Funding may be required to accomplish some of the above.
- Results of the NENA SWAT Team project.

5.e. Identify alternative funding sources and strategies (e.g., rural health program grants).

Lead Stakeholders: NASNA, NENA and APCO

Time Period: FY '03 (3ʳᵈ Qtr)

Contributing Stakeholders: NGA, NACO, NENA, and APCO

Comment: The stakeholders would identify available and applicable funding sources, such as Federal and State monetary sources concerned with national security, public safety, public health, anti-crime, etc. Develop strategies to investigate and apply for funds, prioritizing actions based on deployment sequence. Establish application of funds specifically to wireless E9-1-1 support functions, within any related State law guidelines. The Monitor Group study under NENA's SWAT initiative is directly focused on this issue and task.

Critical Factors:

- Survey of available funding sources, and applicability.
- Develop model grants application package, targeted to 9-1-1 support needs.

5.f. Establish common service agreement/contract.

Lead Stakeholders: NASNA, NENA and APCO

Time Period: FY '04 (1ˢᵗ Qtr)

Contributing Stakeholders: NENA, CTIA, NGA, and NACO

Comment: Coordinate service agreements/contracts across jurisdictions (State-county-municipality).

Critical Factors:

- Develop national wireless readiness evaluation/ communications package (done by ESIF and NENA in Nov 2002).
- Carrier voluntary contributions under FCC enforcement actions shifted to national public safety efforts.

- Complete development of model service agreements and contracts, with in-out and buy-off by all involved parties (started by NENA in 2002).
- Funding as required for above.

ACTION ITEM # 6 TASKS

6.a. Establish criteria for selection of model locations.

Lead Stakeholder: DOT Wireless E 9-1-1 Steering Council

Time Period: FY '03 (3rd Qtr)

Contributing Stakeholder: Expert Working Group

Comment: To achieve maximum effectiveness it is important for the models to be carefully selected based on their demographics and technical sustainability to serve as effective role models. Factors that may be included in the selection criteria include:

1. Leadership
   - Strong Statewide
   - Decentralized
   - Progress
   - Rural/urban – State planning

2. Cost Recovery
   - Collection/disbursement models
   - Cost estimates policy

3. PSAP Readiness
   - Funding
   - Education/technical assistance

4. Political Considerations
   - Federal
   - State
   - Municipal

Critical Factors:

- Find models well positioned for success.
- Model PSAPs, and their carriers, must show a keen interest in being a role model, willing to document and share their process.
- Adequate personnel funded and staffed to accomplish thorough documentation, with acknowledgment and encouragement of this by the implementation team.

6.b. Establish procedures for collecting and analyzing information from the models.

Lead Stakeholder: DOT

Time Period: FY '04 (1st Qtr)

Contributing Stakeholders: APCO, NENA and NASNA

Comment: This task will be critical to the success of this action item, and will require close cooperation among all three stakeholder associations (NENA, APCO and NASNA). Some guidance may be provided by NENA's Strategic Wireless Action Team (SWAT) Initiative.

Critical Factors:

- Identifying critical areas of need by a "high level" team, and conveying this information to the implementation team.
- Creation of an "education attitude" in the implementation team.

6.c. Establish methods of disseminating "lessons learned" to all interested stakeholders.

Lead Stakeholders: DOT

Time Period: FY '04 (1st Qtr)

Contributing Stakeholder: AASHTO, APCO and NENA

Comment: To be effective the information gleaned, and the resulting conclusions, must be promptly distributed to all parties, including PSAPs, public safety associations, wireless carriers, and the FCC.

Critical Factors:

- Cooperative and coordinated efforts by public safety agencies in providing education opportunities and materials.
- Establishing funding methods to allow low-cost symposiums and forums for PSAPs.

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16. Abstract

Prior to the widespread use of wireless telephones, the nation's 5,300 primary Public Safety Answering Points (PSAPs) were able to automatically locate nearly all (98 percent) of 9-1-1 callers using Enhanced 9-1-1 (E9-1-1), an emergency telephone service that provides immediate caller identification and location. However, in most locations, PSAPs do not have location capability for cell phones. Without location capability, 9-1-1 calls from cell phones often compromise public health and safety and result in the inefficient use of emergency resources (law enforcement, fire and rescue, emergency medical services). Rescue crews must search for the incident scene. Well-publicized tragedies where rescuers have been unable to locate victims calling for help from wireless telephones have raised public awareness of the issue, although many users still are unaware of the safety limitations of their cell phone service. The Federal Communications Commission (FCC) has issued orders requiring wireless carriers to provide location capability by the end of 2005. Implementing wireless E9-1-1 is a complex process that requires an unusual degree of collaboration among an array of stakeholders, along with potential changes and enhancements to network infrastructure and PSAP equipment, and requires resolution of funding issues. Recognizing the importance of increased stakeholder coordination in accelerating the pace of wireless E9-1-1 Implementation, Secretary of Trasnportation Norman Y. Mineta convened a Wireless E9-1-1 Stakeholder Summit in April 2002. He challenged the attendees, who were leading representatives of national stakeholder groups, to form a Wireless E9-1-1 Steering Council to develop a Priority action Plan for Wireless E9-1-1 Implementation. The Priority Action Plan developed by the Steering Council is presented in Section II and in the Appendix of this document. Section I provides an overview of emergency call location issues. Section III provides an overview of ongoing stakeholder initiatives.

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